

AIR QUALITY PERMIT

Issued to: Great Northern Bark Company
455 Fourth Ave E.N.
P.O. Box 2008
Columbia Falls, MT 59912

Permit #3027-02
Administrative Amendment Received: 08/22/03
Department Decision on Administrative
Amendment: 10/07/03
Permit Final: 10/23/03
AFS #: 030-029-0031

An air quality permit, with conditions, is hereby granted to the Great Northern Bark Company (Great Northern Bark) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

This permit covers all sources of air pollution at Great Northern Bark's bark processing facility in Columbia Falls. The facility is located in an industrial site just outside the northeastern edge of the city limits. The legal description for the site is the NW¼ of Section 9, Township 30 North, Range 20 West, in Flathead County. A more complete description of the processing equipment is contained in the permit analysis.

B. Current Permit Action

On August 22, 2003, the Department of Environmental Quality (Department) received a letter from Great Northern Bark for changes to air quality Permit #3027-01. The proposed changes include the addition of a Wood Coloring System, Bark Size Reducer System, and associated equipment. Because potential particulate emissions from the proposed operations are less than the de minimis threshold of 15 tons per year, the proposal does not require a permit change before commencing. The permit action will update the permit analysis with the new equipment. An emission inventory for the proposed Wood Coloring System, Bark Size Reducer System, and associated equipment is contained in Section IV of the permit analysis.

The Great Northern Bark facility is located in a PM₁₀ nonattainment area. Prior to the permit action, in accordance with Department policy, Great Northern Bark was not required to conduct modeling for potential PM₁₀ impacts because potential PM₁₀ emissions did not exceed the permitting threshold of 25 tons/year. However, potential emissions from the Wood Coloring System, Bark Size Reducer System, and associated equipment permitted under this permit action brought potential PM₁₀ emissions to a level which exceeded the 25 tons/year threshold and modeling was required. Great Northern Bark accepted an operational limit of 1700 hours for the portable screening plant and a total of 1700 hours for the Wood Coloring System, Bark Size Reducer System, and associated equipment to keep potential PM₁₀ emissions below the 25 tons/year permitting threshold and to stay below air dispersion modeling requirement thresholds.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Operation of the Wood Coloring System, Bark Size Reducer System, and associated equipment at the Great Northern Bark site shall not exceed 1700 hours total during any rolling 12-month time period (ARM 17.8.749).
2. Great Northern Bark shall not process more than 600,000 cubic yards of material at the facility during any rolling 12-month time period excluding material processed by the Construction Equipment Co. 5' x 12' two deck screen plant (ARM 17.8.749).
3. Operation of the portable Construction Equipment Co. 5' x 12' two deck screen plant and associated equipment at the Great Northern Bark site shall not exceed 1700 hours during any rolling 12-month time period (ARM 17.8.749).
4. Great Northern Bark shall not cause or authorize to be discharged into the atmosphere, from any equipment used in conjunction with this facility, including but not limited to, screens, trommels, or the cleaning of the bagging line, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304, ARM 17.8.308 and ARM 17.8.752).
5. Water and/or chemical dust suppressant shall be available on site at all times and used as necessary to maintain compliance with the opacity limitation in Section II.A.4 (ARM 17.8.752).
6. Great Northern Bark shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
7. Great Northern Bark shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.6 (ARM 17.8.752).
8. Great Northern Bark shall cover the processing screens and trommel barrels, as much as practicable, to minimize fugitive dust emissions (ARM 17.8.752).
9. Great Northern Bark shall ensure that the drop area for ¼ inch minus materials (fines) are covered as much as practical and the fines are collected in a three-sided bunker to minimize windblown emissions (ARM 17.8.752).
10. Great Northern Bark shall not operate any equipment, or cause or allow any emissions of gases, vapors, or odors beyond its property line (ARM 17.8.111).

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department may require testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Great Northern Bark shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.
2. Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).
3. All records compiled in accordance with this permit must be maintained by Great Northern Bark as a permanent business record for at least 5 years following the date of the measurement. These records must be available at the plant site for inspection by the Department and must be submitted to the Department upon request (ARM 17.8.749).
4. Great Northern Bark shall document, by month, the total hours of operation of the Wood Coloring System, Bark Size Reducer System, and associated equipment at the Great Northern Bark – Columbia Falls site. By the 25th day of each month, Great Northern Bark shall total the hours of operation during the previous 12 months to verify compliance with the limitation in Section II.A.1. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).
5. Great Northern Bark shall document, by month, the total amount of material processed at the facility, excluding material processed by the Construction Equipment Co. 5' x 12' two deck screen plant. By the 25th day of each month, Great Northern Bark shall total the amount of material processed during the previous 12 months to verify compliance with the limitation in Section II.A.2. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).
6. Great Northern Bark shall document, by month, the total hours of operation of the portable Construction Equipment Co. 5' x 12' two deck screen plant and associated equipment at the Great Northern Bark – Columbia Falls site. By the 25th day of each month, Great Northern Bark shall total the hours of operation during the previous 12 months to verify compliance with the limitation in Section II.A.3. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).
7. Great Northern Bark shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit.

The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must

include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

D. Notification

Great Northern Bark shall notify the Department each time the portable Construction Equipment Co. 5' x 12' two deck screen plant, permitted under Permit #3027-01, is moved to the Great Northern Bark – Columbia Falls site. Notification shall be submitted to the Department by the date of physical transfer of the equipment to the Columbia Falls site (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection – Great Northern Bark shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Great Northern Bark fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Great Northern Bark of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department's decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Great Northern Bark may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

PERMIT ANALYSIS
Permit #3027-02
Great Northern Bark Company

I. Introduction/ Process Description

A. Site Location

Great Northern Bark Company's (Great Northern Bark) bark processing facility is located in an industrial site just outside the northeastern edge of the Columbia Falls city limits. The legal description for the site is the NW¼ of Section 9, Township 30 North, Range 20 West, in Flathead County.

B. Source Description

The facility consists of a processing line for the separation and classification of bark and log yard waste. The final products are various types of "beauty bark" used for landscaping materials. The raw material consists mainly of log yard waste that is brought in by truck from sawmills throughout western Montana. The material is run through screens, hogs, and barrel trommels via conveyors to separate dirt and undersized material from the useable landscaping bark. The various size fractions are stored in outdoor storage piles.

Once the material is separated, it is stored in the processed bulk piles. Some of the bark is bagged and shipped on pallets and some is shipped in bulk. The undersized material is sold to be composted. All operations except the bagging are located outdoors. Further, Great Northern Bark periodically operates a portable bark/rock screening plant for the purpose of separating usable material from unusable materials.

C. Permit History

Great Northern Bark has processed bark at this site since 1996. In November of 1996, the Department of Environmental Quality (Department) calculated, based on the size of the facility at the time and the estimated emissions, that a preconstruction permit was not required. The facility later expanded its operations and review of estimated emissions from the facility indicated that particulate emissions exceeded the 25 ton per year threshold requiring a preconstruction permit. The Department notified Great Northern Bark of this determination on February 19, 1998. After discussing the requirements with the Department, Great Northern Bark submitted a permit application on October 27, 1998.

The Department originally determined that the application was incomplete because it lacked modeling to show that its emissions did not adversely affect the Columbia Falls PM₁₀ nonattainment area. The Department later determined that sources whose emissions are less than the permitting threshold for the pollutant of concern in a nonattainment area are assumed to not have a significant impact on the nonattainment area. These sources were not required to submit modeling to show no impact. Great Northern Bark was in this category, emissions of PM₁₀ were less than the 25 ton permitting threshold; therefore, no modeling was required. The permit application was deemed complete on December 16, 1998, and Permit #3027-00 was issued final on February 28, 1999.

On August 21, 2002, the Department received a complete permit application from Great Northern Bark for changes to air quality Permit #3027-00. The changes included the addition of a portable Construction Equipment Co. 5' x 12' two deck screen plant and associated equipment to the facility. Because potential particulate emissions from the bark/rock screening plant operations exceeded the de minimis threshold of 15 tons per year the permit action required a permit alteration. The bark/rock screening plant operations periodically locate at the existing Great Northern Bark Columbia Falls facility.

The Great Northern Bark facility is located in a PM₁₀ nonattainment area. Prior to the permit action, in accordance with Department policy, Great Northern Bark was not required to conduct modeling for potential PM₁₀ impacts because potential PM₁₀ emissions did not exceed the permitting threshold of 25 tons/year. However, potential emissions from the portable plant permitted under this permit action brought potential PM₁₀ emissions to a level which exceeded the 25 tons/year threshold and modeling was required. Great Northern Bark accepted a permit limit for the portable screening plant of 2350 hours of operation during any rolling 12-month time period to keep potential PM₁₀ emissions below the 25 tons/year permitting threshold and stay below air dispersion modeling requirement thresholds. Permit **#3027-01** replaced Permit #3027-00.

D. Current Permit Action

On August 22, 2003, the Department received a letter from Great Northern Bark for changes to air quality Permit #3027-01. The proposed changes include the addition of a Wood Coloring System, Bark Size Reducer System, and associated equipment. Because potential particulate emissions from the proposed operations are less than the de minimis threshold of 15 tons per year, the proposal does not require a permit change before commencing. The permit action will update the permit analysis with the new equipment. An emission inventory for the proposed Wood Coloring System, Bark Size Reducer System, and associated equipment is contained in Section IV of the permit analysis.

The Great Northern Bark facility is located in a PM₁₀ nonattainment area. Prior to the permit action, in accordance with Department policy, Great Northern Bark was not required to conduct modeling for potential PM₁₀ impacts because potential PM₁₀ emissions did not exceed the permitting threshold of 25 tons/year. However, potential emissions from the Wood Coloring System, Bark Size Reducer System, and associated equipment permitted under this permit action brought potential PM₁₀ emissions to a level which exceeded the 25 tons/year threshold and modeling was required. Great Northern Bark accepted an operational limit of 1700 hours for the portable screening plant and a total of 1700 hours for the Wood Coloring System, Bark Size Reducer System, and associated equipment to keep potential PM₁₀ emissions below the 25 tons/year permitting threshold and to stay below air dispersion modeling requirement thresholds. Permit **#3027-02** replaces Permit #3027-01.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available upon request from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Great Northern Bark shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.220, Ambient Air Quality Standard for Settled Particulate Matter
2. ARM 17.8.221, Ambient Air Quality Standard for Visibility
3. ARM 17.8.223, Ambient Air Quality Standard for PM₁₀

Great Northern Bark must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Great Northern Bark shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter. (4) This rule requires that reasonable precautions for fugitive emission sources and RACT for existing fugitive emission sources located in a nonattainment area. The Department, in consultation with Environmental Protection Agency (EPA), determined that the use of chemical stabilization on major haul roads and on working areas within the log decks, in conjunction with watering, will satisfy these requirements.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR 60.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. The current permit action is considered an administrative amendment and does not require an application fee.
2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open

burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

- E. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. Great Northern Bark has the potential to emit more than 25 tons per year of particulate matter (PM); therefore, an air quality permit is required.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
 4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
 5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration or use of a source. The current permit action is an administrative amendment, and therefore, does not require the submittal of a permit application.
 6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
 7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
 8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
 9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in

the permit shall be construed as relieving Great Northern Bark of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
 11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
 12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
 13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
 14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications-- Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since this facility is not a listed source and the facility's potential to emit is below 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 tons/year of any pollutant;
 - b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3027-02 for Great Northern Bark, the following conclusions were made.
 - a. The facility's PTE is less than 100 tons/year for any pollutant.
 - b. The facility's PTE is less than 10 tons/year for any individual HAP and less than 25 tons/year for all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is not subject to any current NSPS.
 - e. This facility is not subject to any current NESHAP standards.
 - f. This source is not a Title IV affected source, nor a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Great Northern Bark will be a minor source of emissions as defined under Title V.

III. BACT Determination

A BACT determination is required for each new or altered source. Great Northern Bark shall install on the new or altered source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized. The current permit action is an administrative amendment and does not require a BACT analysis.

IV. Emission Inventory

Emission Source	PM	PM ₁₀	NO _x	CO	SO _x	VOC
Trommels #1, #2, and #3	26.00	9.36	0.00	0.00	0.00	0.00
Raw Material Storage Pile	17.30	6.20	0.00	0.00	0.00	0.00
Fines Storage Pile	3.00	1.10	0.00	0.00	0.00	0.00
Bagging Operation	0.11	0.04	0.00	0.00	0.00	0.00
Truck Loadout: Bulk Material	2.04	0.73	0.00	0.00	0.00	0.00
Portable Bark/Rock Screen	0.68	0.34	0.00	0.00	0.00	0.00
Portable Bark/Rock Screen Material Transfer	1.35	0.68	0.00	0.00	0.00	0.00
Portable Bark/Rock Screen Pile Forming	2.03	1.01	0.00	0.00	0.00	0.00
Portable Bark/Rock Screen Bulk Loading	2.03	1.01	0.00	0.00	0.00	0.00
Portable Bark/Rock Screen Diesel Generator	0.65	0.65	9.10	1.96	0.60	0.72
Fugitive Vehicle Emissions	6.00	2.70	0.00	0.00	0.00	0.00
Wood Coloring/Bark Size Reducer Systems						
Truck Loadout: Bulk Material	1.21	0.43	0.00	0.00	0.00	0.00
Hog Grinder	0.15	0.07	0.00	0.00	0.00	0.00
Bark Size Reducer	0.12	0.06	0.00	0.00	0.00	0.00
Bark Screen	0.12	0.06	0.00	0.00	0.00	0.00
Material Transfer	0.70	0.35	0.00	0.00	0.00	0.00
Pile Forming	0.35	0.18	0.00	0.00	0.00	0.00
Total Potential Emissions	63.84	24.97	9.10	1.96	0.60	0.72

* Emission factors used for the portable operations are Department emission factors derived from similar sources (log de-barking) in the wood products industry.

Stationary Site Emissions

Production Rate: 67 yd³/hr (Company information/estimate)
 Bark Factor: 2500 lb/200 ft³ (Department factor – assume same as chips @ 30% moisture)
 Calculation: 67 yd³/hr * 27 ft³/yd³ * 2500 lb/200 ft³ * 8760 hr/yr * 0.0005 ton/lb = 99,043 ton/yr (green)
 Dry Conversion: 99,043 green ton/yr * (1 – 0.3) = 69,330 ton/yr (dry)

Trommels #1, #2, and #3

PM Emissions

Emission Factor: 1 lb/ton (dry) (Fire v.5.0 SCC 30700803 – assume same as sawdust handling)
 Control Efficiency: 25% (Water Spray)
 Calculations: 69,330 ton/yr (dry) * 1.0 lb/ton (dry) * (1 – 0.25) * 0.0005 ton/lb = 26.00 ton/yr

PM₁₀ Emissions

Emission Factor: 0.36 lb/ton (dry) (Fire v.5.0 SCC 30700803 - assume same as sawdust handling)
 Control Efficiency: 25% (water spray)
 Calculations: 69,330 ton/yr (dry) * 0.36 lb/ton (dry) * (1 – 0.25) * 0.0005 ton/lb = 9.36 ton/yr

Raw Material Storage Pile

PM Emissions

Emission Factor: 0.5 lb/ton (dry) (Fire v.5.0 SCC 30700803 – assume 50% of sawdust handling)
 Calculations: 69,330 ton/yr (dry) * 0.5 lb/ton (dry) * 0.0005 ton/lb = 17.33 ton/yr

PM₁₀ Emissions

Emission Factor: 0.18 lb/ton (dry) (Fire v.5.0 SCC 30700803 –assume 50% of sawdust handling)
 Calculations: 69,330 ton/yr (dry) * 0.18 lb/ton (dry) * 0.0005 ton/lb = 6.24 ton/yr

Fines Storage Pile

Production Rate: 5962 ton/yr (dry) (8.6% of production – company estimate)

PM Emissions

Emission Factor: 1 lb/ton (dry) (Fire v.5.0 SCC 30700803 – assume same as sawdust handling)

Calculations: $5962 \text{ ton/yr (dry)} * 1.0 \text{ lb/ton (dry)} * 0.0005 \text{ ton/lb} = 2.98 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.36 lb/ton (dry) (Fire v.5.0 SCC 30700803 –assume same as sawdust handling)

Calculations: $5962 \text{ ton/yr (dry)} * 0.36 \text{ lb/ton (dry)} * 0.0005 \text{ ton/lb} = 1.07 \text{ ton/yr}$

Bagging Operation

Production Rate: 22,557 ton/yr (dry) (company estimate)

PM Emissions

Emission Factor: 0.1 lb/ton (dry) (Fire v.5.0 SCC 30700803 – assume 10% of sawdust handling)

Control Efficiency: 90% (building control)

Calculations: $22,557 \text{ ton/yr (dry)} * 0.1 \text{ lb/ton (dry)} * (1-0.9) * 0.0005 \text{ ton/lb} = 0.11 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.036 lb/ton (dry) (Fire v.5.0 SCC 30700803 assume same as sawdust handling)

Control Efficiency: 90% (building co)

Calculations: $22,557 \text{ ton/yr (dry)} * 0.036 \text{ lb/ton (dry)} * (1-0.9) * 0.0005 \text{ ton/lb} = 0.04 \text{ ton/yr}$

Truck Loadout: Bulk Material

Production Rate: 40,811 ton/yr (dry) (company estimate – remainder of material not bagged or fines)

PM Emissions

Emission Factor: 0.1 lb/ton (dry) (Fire v.5.0 SCC 30700803 – assume 10% of sawdust handling)

Calculations: $40,811 \text{ ton/yr (dry)} * 0.1 \text{ lb/ton (dry)} * 0.0005 \text{ ton/lb} = 2.04 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.036 lb/ton (dry) (Fire v.5.0 SCC 30700803 assume same as sawdust handling)

Calculations: $40,811 \text{ ton/yr (dry)} * 0.036 \text{ lb/ton (dry)} * 0.0005 \text{ ton/lb} = 0.73 \text{ ton/yr}$

Portable Source Emissions

Portable Bark/Rock Screen

Operating Capacity: 44 yd³/hr (company information)

Conversion: $44 \text{ yd}^3/\text{hr} * 27 \text{ ft}^3/\text{yd}^3 = 1188 \text{ ft}^3/\text{hr}$

Hours of Operation: 1100 hr/yr (permit limit)

Process Material Weight: (derived from AP-42, Volume 1, Appendix A)

Mixture Content: Processed Material (company information)

32 lb/ft³ (Density of Douglas Fir) = 60% of mixture = 19.2 lb/ft³

126 lb/ft³ (Density of wet gravel) = 30% of mixture = 37.8 lb/ft³

100 lb/ft³ (Density of sand/dirt) = 10% of mixture = 10.0 lb/ft³

Total 67 lb/ft³

Processing Capacity Calculation: $1188 \text{ ft}^3 * 67 \text{ lb/ft}^3 * 0.0005 \text{ ton/lb} = 39.80 \text{ ton/hr}$

PM Emissions

Emission Factor: 0.02 lb/ton (Department emission factor – similar source de-barking operations)

Calculations: $0.02 \text{ lb/ton} * 39.80 \text{ ton/hr} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.68 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (assume 50% of PM is PM₁₀)

Calculations: $0.01 \text{ lb/ton} * 39.80 \text{ ton/hr} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.34 \text{ ton/yr}$

Portable Bark/Rock Screen: Material Transfer

Process Rate: 39.80 ton/hr

Number of Transfers: 2 Transfers
Hours of Operation: 1700 hr/yr (permit limit)

PM Emissions

Emission Factor: 0.02 lb/ton (Department emission factor – similar source de-barking operations)
Calculations: $0.02 \text{ lb/ton} * 39.80 \text{ ton/hr} * 2 \text{ transfers} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.35 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (Assume 50% of PM is PM₁₀)
Calculations: $0.01 \text{ lb/ton} * 39.80 \text{ ton/hr} * 2 \text{ transfers} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.68 \text{ ton/yr}$

Portable Bark/Rock Screen: Pile Forming

Process Rate: 39.80 ton/hr
Number of Piles: 3 Piles
Hours of Operation: 1700 hr/yr (permit limit)

PM Emissions

Emission Factor: 0.02 lb/ton (Department emission factor – similar source de-barking operations)
Calculations: $0.02 \text{ lb/ton} * 39.80 \text{ ton/hr} * 3 \text{ piles} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 2.03 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (Assume 50% of PM is PM₁₀)
Calculations: $0.01 \text{ lb/ton} * 39.80 \text{ ton/hr} * 3 \text{ piles} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.01 \text{ ton/yr}$

Portable Bark/Rock Screen: Bulk Loading

Process Rate: 39.80 ton/hr
Number of Loads: 3 Loads
Hours of Operation: 1700 hr/yr (permit limit)

PM Emissions

Emission Factor: 0.02 lb/ton (Department emission factor – similar source de-barking operations)
Calculations: $0.02 \text{ lb/ton} * 39.80 \text{ ton/hr} * 3 \text{ loads} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 2.03 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (Assume 50% of PM is PM₁₀)
Calculations: $0.01 \text{ lb/ton} * 39.80 \text{ ton/hr} * 3 \text{ loads} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.01 \text{ ton/yr}$

Portable Bark/Rock Screen: Diesel Generator

Generator Capacity: 67 Hp (company information)
Hours of Operation: 8760 hr/yr

PM Emissions

Emission Factor: 0.0022 lb/Hp-hr (AP-42, Table 3.3-1, 07/95)
Calculations: $67 \text{ Hp} * 0.0022 \text{ lb/Hp-hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.65 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.0022 lb/Hp-hr (AP-42, Table 3.3-1, 07/95)
Calculations: $67 \text{ Hp} * 0.0022 \text{ lb/Hp-hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.65 \text{ ton/yr}$

NO_x Emissions

Emission Factor: 0.0310 lb/Hp-hr (AP-42, Table 3.3-1, 07/95)
Calculations: $67 \text{ Hp} * 0.0310 \text{ lb/Hp-hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 9.10 \text{ ton/yr}$

CO Emissions

Emission Factor: 0.00668 lb/Hp-hr (AP-42, Table 3.3-1, 07/95)
Calculations: $67 \text{ Hp} * 0.00668 \text{ lb/Hp-hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.96 \text{ ton/yr}$

SO_x Emissions

Emission Factor: 0.00205 lb/Hp-hr (AP-42, Table 3.3-1, 07/95)
Calculations: $67 \text{ Hp} * 0.00205 \text{ lb/Hp-hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.60 \text{ ton/yr}$

VOC Emissions

Emission Factor: 0.00247 lb/Hp-hr (AP-42, Table 3.3-1, 07/95)
Calculations: $67 \text{ Hp} * 0.00247 \text{ lb/Hp-hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.72 \text{ ton/yr}$

Fugitive Vehicle Emissions

Vehicle Miles: 4000 mi./yr (Department estimate)

PM Emissions

Emission Factor: 6 lb/VMT (Department emission factor)
Control Efficiency: 50% (watering and/or chemical dust suppressant)
Calculations: $4000 \text{ mi/yr} * 6.0 \text{ lb/VMT} * (1-0.5) * 0.0005 \text{ ton/lb} = 6.00 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 2.7 lb/VMT (Department emission factor)
Control Efficiency: 50% (watering and/or chemical dust suppressant)
Calculations: $4000 \text{ mi/yr} * 2.7 \text{ lb/VMT} * (1-0.5) * 0.0005 \text{ ton/lb} = 2.70 \text{ ton/yr}$

Wood Coloring/Bark Size Reducer Systems

Production Rate: 120 yd³/hr (Company estimate)
Bark Factor: 2500 lb/200 ft³ (Department factor – assume chips @ 30% moisture)
Calculation: $120 \text{ yd}^3/\text{hr} * 27 \text{ ft}^3/\text{yd}^3 * 2500 \text{ lb}/200 \text{ ft}^3 * 1700 \text{ hr/yr} * 0.0005 \text{ lb/ton} = 34,425 \text{ ton/yr (green)}$
Dry Conversion: $34,425 \text{ green ton/yr} * (1-0.3) = 24,098 \text{ ton/yr}$

Truck Loadout: Bulk Material

Production Rate: 15,592 ton/yr (Permit Limit)

PM Emissions

Emission Factor: 0.1 lb/ton (dry) (Fire v 5.0 SCC 30700803 - assume 10% of sawdust handling)
Calculations: $24,098 \text{ ton/yr} * 0.1 \text{ lb/ton (dry)} * 0.0005 \text{ lb/ton} = 1.21 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.036 lb/ton (dry) (Fire v 5.0 SCC 30700803 - assume 10% of sawdust handling)
Calculations: $24,098 \text{ ton/yr} * 0.036 \text{ lb/ton (dry)} * 0.0005 \text{ lb/ton} = 0.43 \text{ ton/yr}$

Hog Grinder

Operating Capacity: 80 yd³/hr (Company Information)
Conversion: $80 \text{ yd}^3/\text{hr} * 27 \text{ ft}^3/\text{yd}^3 = 2160 \text{ ft}^3/\text{hr}$

Process Capacity
 $8 \text{ lb/ft}^3 \text{ (physically weighed by GNBC)} * 2160 \text{ ft}^3/\text{hr} * 0.0005 \text{ lb/ton} = 8.64 \text{ ton/hr}$

PM Emissions

Emission Factor: 0.02 lb/ton (Department Emission Factor - similar source de-barking operations)
Calculations: $0.02 \text{ lb/ton} * 8.64 \text{ ton/hr} * 1700 \text{ hr/yr} * 0.0005 \text{ lb/ton} = 0.15 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (assume 50% of PM is PM₁₀)
Calculations: $0.01 \text{ lb/ton} * 8.64 \text{ ton/hr} * 1700 \text{ hr/yr} * 0.0005 \text{ lb/ton} = 0.07 \text{ ton/yr}$

Bark Size Reducer

Operating Capacity: 40 yd³/hr (Company Information)
Conversion: $40 \text{ yd}^3/\text{hr} * 27 \text{ ft}^3/\text{yd}^3 = 1080 \text{ ft}^3/\text{hr}$

Process Capacity

12.78 lb/ft^3 (physically weighed by GNBC) * $1080 \text{ ft}^3/\text{hr}$ * 0.0005 lb/ton = 6.90 ton/hr

PM Emissions

Emission Factor: 0.02 lb/ton (Department Emission Factor - similar source de-barking operations)

Calculations: $0.02 \text{ lb/ton} * 6.9 \text{ ton/hr} * 1700 \text{ hr/yr} * 0.0005 \text{ lb/ton} = 0.12 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (assume 50% of PM is PM₁₀)

Calculations: $0.01 \text{ lb/ton} * 6.9 \text{ ton/hr} * 1100 \text{ hr/yr} * 0.0005 \text{ lb/ton} = 0.06 \text{ ton/yr}$

Bark Screen

Operating Capacity: $40 \text{ yd}^3/\text{hr}$ (Company Information)

Conversion: $40 \text{ yd}^3/\text{hr} * 27 \text{ ft}^3/\text{yd}^3 = 1080 \text{ ft}^3/\text{hr}$

Process Capacity

12.78 lb/ft^3 (physically weighed by GNBC) * $1080 \text{ ft}^3/\text{hr}$ * 0.0005 lb/ton = 6.90 ton/hr

PM Emissions

Emission Factor: 0.02 lb/ton (Department Emission Factor - similar source de-barking operations)

Calculations: $0.02 \text{ lb/ton} * 6.9 \text{ ton/hr} * 1700 \text{ hr/yr} * 0.0005 \text{ lb/ton} = 0.12 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (assume 50% of PM is PM₁₀)

Calculations: $0.01 \text{ lb/ton} * 6.9 \text{ ton/hr} * 1700 \text{ hr/yr} * 0.0005 \text{ lb/ton} = 0.06 \text{ ton/yr}$

Material Transfer

Process Rate: 6.9 ton/hr

Number of Transfers: 6 Transfers

Hours of Operation: 1700 hr/yr

PM Emissions

Emission Factor: 0.02 lb/ton (Department emission factor – similar source de-barking operations)

Calculations: $0.02 \text{ lb/ton} * 6.9 \text{ ton/hr} * 6 \text{ transfers} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.70 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (Assume 50% of PM is PM₁₀)

Calculations: $0.01 \text{ lb/ton} * 6.9 \text{ ton/hr} * 6 \text{ transfers} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.35 \text{ ton/yr}$

Screen: Pile Forming

Process Rate: 6.9 ton/hr

Number of Piles: 3 Piles

Hours of Operation: 1700 hr/yr

PM Emissions

Emission Factor: 0.02 lb/ton (Department emission factor – similar source de-barking operations)

Calculations: $0.02 \text{ lb/ton} * 6.9 \text{ ton/hr} * 3 \text{ piles} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.35 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.01 lb/ton (Assume 50% of PM is PM₁₀)

Calculations: $0.01 \text{ lb/ton} * 6.9 \text{ ton/hr} * 3 \text{ piles} * 1700 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.18 \text{ ton/yr}$

V. Existing Air Quality

The Columbia Falls area is designated as nonattainment for particulate matter with an aerodynamic diameter of less than 10 microns (PM₁₀). The Department prepared a SIP, which

identified the necessary controls to bring the area back into compliance with the National Ambient Air Quality Standards (NAAQS). Great Northern Bark lies within the northeastern boundary of the nonattainment area. Emissions from this facility, including the proposed Wood Coloring System, Bark Size Reducer System, and associated equipment, are not expected to adversely affect the area's compliance with the NAAQS because emissions of PM₁₀ are less than the permitting threshold of 25 tons of PM₁₀ per year and because of controls required in Permit #3027-02 including opacity limitations and hourly operating limits.

VI. Ambient Air Impact Analysis

Potential PM₁₀ emissions from the proposed bark/rock screening plant operations are minor. The Department determined, based on the size of the facility and its estimated emissions, that emissions from the proposed Wood Coloring System, Bark Size Reducer System, and associated equipment will not significantly impact the area of operation. The Department does not believe that the proposed Wood Coloring System, Bark Size Reducer System, and associated equipment operations will cause or contribute to any exceedances of the NAAQS.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

This permitting action is considered an administrative action; therefore, an Environmental Assessment is not required.

Analysis prepared by: Chris Ames
Date: September 26, 2003